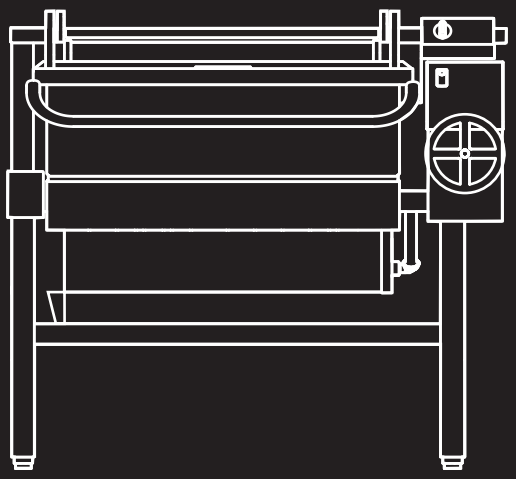
OPERATOR MANUAL

IMPORTANT INFORMATION, KEEP FOR OPERATOR

This manual provides information for:

MODELS BPM-30/40G(S) & BPP-30/40G Domestic ECLIPSE ERGONOMIC TILTING BRAISING PAN

- Stainless Steel
- Manual or Power Tilt
- Gas Heated



THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE. READ, UNDERSTAND AND FOLLOW THE INSTRUCTIONS AND WARNINGS CONTAINED IN THIS MANUAL.

FOR YOUR SAFETY
Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.

POST IN A PROMINENT LOCATION
Instructions to be followed in the event user smells gas. This information shall be obtained by consulting your local gas supplier. As a minimum, turn off the gas and call your gas company and your authorized service agent. Evacuate all personnel from the area.

WARNING
Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

NOTIFY CARRIER OF DAMAGE AT ONCE
It is the responsibility of the consignee to inspect the container upon receipt of same and to determine the possibility of any damage, including concealed damage. Unified Brands suggests that if you are suspicious of damage to make a notation on the delivery receipt. It will be the responsibility of the consignee to file a claim with the carrier. We recommend that you do so at once.

Manufacture Service/Questions 888-994-7636.

Information contained in this document is known to be current and accurate at the time of printing/creation. Unified Brands recommends referencing our product line websites, unifiedbrands.net, for the most updated product information and specifications.

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IMPORTANT - READ FIRST - IMPORTANT

WARNING: DISCONNECT POWER BEFORE SERVICING. FAILURE TO DISCONNECT COULD RESULT IN ELECTROCUTION AND DEATH.

CAUTION: UNIT WEIGHS 470 TO 560 LB. (191 TO 255 KG). FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.

WARNING: INSTALLATION OF THE BRAISING PAN MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH GAS AND ELECTRICITY. IMPROPER INSTALLATION CAN RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

WARNING: THIS UNIT IS DESIGNED FOR COMMERCIAL USE. NEVER USE HOME OR RESIDENTIAL GRADE GAS CONNECTIONS. THEY DO NOT MEET COMMERCIAL GAS CODES AND COULD BE HAZARDOUS.

DANGER: ELECTRICALLY GROUND THE UNIT AT THE TERMINAL PROVIDED. FAILURE TO GROUND UNIT COULD RESULT IN ELECTROCUTION AND DEATH.

WARNING: KEEP THE APPLIANCE AREA FREE AND CLEAR OF COMBUSTIBLE MATERIALS. FAILURE TO DO SO COULD RESULT IN FIRE OR PROPERTY DAMAGE.

CAUTION: BE SURE ALL OPERATORS READ, UNDERSTAND AND FOLLOW THE OPERATING INSTRUCTIONS, CAUTIONS AND SAFETY INSTRUCTIONS CONTAINED IN THIS MANUAL.

CAUTION: KEEP FLOORS IN BRAISING PAN WORK AREA CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY TO AVOID THE DANGER OF SLIPS OR FALLS.

WARNING: WHEN TILTING BRAISING PAN FOR PRODUCT TRANSFER:
1) USE CONTAINER DEEP ENOUGH TO CONTAIN AND MINIMIZE PRODUCT SPLASHING.
2) PLACE CONTAINER ON STABLE, FLAT SURFACE, AS CLOSE TO PAN AS POSSIBLE.
3) STAND TO SIDE OF PAN WHILE POURING — NOT DIRECTLY IN POUR PATH OF HOT CONTENTS.
4) RETURN PAN BODY TO LEVEL POSITION AFTER CONTAINER IS FILLED OR TRANSFER IS COMPLETE.
5) DO NOT OVERFILL CONTAINER, AVOIDING DIRECT SKIN CONTACT WITH HOT CONTAINER AND ITS CONTENTS.

WARNING: DO NOT HEAT EMPTY PAN FOR MORE THAN 5 MINUTES AT A SETTING HIGHER THAN 300ºF.

WARNING: IF THE PAN CONTAINS ITEMS IN HOT LIQUIDS SUCH AS SAUCE OR MELTED FAT, THEY CAN SLIDE FORWARD SUDDENLY DURING TILTING AND CAUSE THE HOT LIQUID TO SPLASH OUT.

WARNING: AVOID ALL DIRECT CONTACT WITH HOT FOOD PRODUCT OR WATER IN THE PAN. DIRECT CONTACT COULD RESULT IN SEVERE BURNS.

WARNING: IT IS RECOMMENDED THAT WATER AND SOLUTIONS BE KEPT OUT OF CONTROLS AND BURNERS. DO NOT USE HIGH PRESSURE SPRAY DIRECTLY ON THE CONTROL CONSOLE, ELECTRICAL CONNECTIONS AND BURNERS. USE A GARDEN HOSE SPRAY CONNECTED TO CITY WATER SUPPLY.

CAUTION: MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNINGS AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.

WARNING: BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRIC POWER SUPPLY AND CLOSE THE MAIN GAS COCK. ALLOW FIVE MINUTES FOR UNBURNED GAS TO VENT.

CAUTION: USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY AUTHORIZED DISTRIBUTORS CAN CAUSE INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.

IMPORTANT: SERVICE PERFORMED BY OTHER THAN GROEN AUTHORIZED SERVICE AGENT WILL VOID ALL WARRANTIES.

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References

CANADIAN STANDARDS ASSOCIATION
8501 East Pleasant Valley Road
Cleveland, Ohio 44131

Z83-11 - Gas Foodservice Equipment
Z223.1 - National Fuel Gas Code

AMERICAN NATIONAL STANDARDS INSTITUTE
1403 Broadway
New York, New York 10018

CANADIAN GAS ASSOCIATION
55 Scarsdale Road
Don Mills, Ontario M3B 2 R3

NATIONAL FIRE PROTECTION ASSOCIATION
60 Battery March Park
Quincy, Massachusetts 02269

NFPA/54 - Installation of Gas Appliances & Gas Piping
NFPA/70 - The National Electrical Code
NFPA/96 - Ventilating Hoods

NSF INTERNATIONAL
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P.O. Box 130140
Ann Arbor, Michigan 48113-0140

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Northbrook, Illinois 60062

Equipment Description

Groen gas-heated Eclipse Ergonomic Tilting Braising Pans provide a stainless steel pan equipped with patented heat transfer fins, burner/combustion chamber, hand-operated or electric powered tilting mechanism, thermostatic controls, and hinged cover. The appliance serves as braising pan, griddle, fry pan, oven, kettle, bainmarie and food warmer/server, can be adapted for use as a non-pressure steamer and can be used to stir-fry, reheat and saute foods.

The pan body is made from heavy-duty stainless steel welded into one solid piece, with a polished interior and exterior. A pouring lip is welded to the front wall. The cooking surface is a stainless steel clad plate fitted with welded heat transfer fins which assure uniform heat transfer over the entire surface. The gas burner/ combustion chamber supplies the heat.

An easily operated worm and gear mechanism tilts the pan and provides precise control for pouring or dumping the contents of the pan. This hand-wheel controlled mechanism is located in a stainless steel console to the right of the pan body. For models with electric power tilt, a switch operates an electric motor that starts and stops the pan tilt smoothly. To assist cleaning, the pan body can be tilted past the vertical position. When the pan is tilted, the burners shut off automatically.

The thermostat provides automatic control of cooking temperature. Operating the thermostat dial on the front of the control console turns the heat on or off and sets the pan temperature.

A vented, heavy gauge, one-piece, stainless steel cover with a condensate drip shield on the rear edge is standard on the Braising Pan. A fully enclosed, torsion bar type counterbalance provides easy operation to open the cover and to maintain it open at any position. The cover opens to the back and is hinged to the frame, so it moves independently of the pan body.

The braising pan is mounted on an open-leg frame fabricated from tubular stainless steel.

Standard models have an ignition system that uses electronic spark ignition. Optional models have a standing flame pilot light that ignites the main burner.

Model	PAN DIMENSIONS			Ignition	Tilt
	Left to Right	Front to Rear	Depth		
BPM-30G	26-1/4" (667 mm)	28-1/4" (718 mm)	10" (25 mm)	Elec. Spark	Manual
BPP-30G	26-1/4" (667 mm)	28-1/4" (718 mm)	10" (25 mm)	Elec. Spark	Power
BPM-30GS	26-1/4" (667 mm)	28-1/4" (718 mm)	10" (25 mm)	Standing Pilot	Manual
BPM-40G	35-3/4" (908 mm)	28-1/4" (718 mm)	10" (25 mm)	Elec. Spark	Manual
BPP-40G	35-3/4" (908 mm)	28-1/4" (718 mm)	10" (25 mm)	Elec. Spark	Power
BPM-40GS	35-3/4" (908 mm)	28-1/4" (718 mm)	10" (25 mm)	Standing Pilot	Manual

Equipment Description

Optional Tangent Draw-off

Optional equipment available with these models are:

1. Fill faucet with swing spout. (Left or right mounted) - specify single or double pantry
2. Fill faucet with 48” or 60” spray hose assembly (left or right mounted) - specify single or double pantry
3. Caster mounting kit
4. Flanged Feet
5. Fold-down work tray (pan support) mounted onright side
6. 2” Tangent draw-off (Factory-installed must be indicated on initial order)
7. Steamer Insert set
8. Steamer Pan Carrier
9. Quick gas disconnect with restraining cable
10. Pouring Lip Strainer
11. Strainer for 2” TDO valve

PERFORMANCE DATA

Model	Firing Rate
BPM-30G	104,000 BTU/hr
BPM-30GS	
BPP-30GS	
BPM-40G	144,000 BTU/hr
BPM-40GS	
BPP-40G	

Inspection & Unpacking

CAUTION
SHIPPING STRAPS ARE UNDER TENSION AND CAN SNAP BACK WHEN CUT.

CAUTION
UNIT WEIGHS 420 TO 560 LB (190 TO 255 KG). FOR SAFE HANDLING, INSTALLER SHOULD OBTAIN HELP AS NEEDED, OR EMPLOY APPROPRIATE MATERIALS HANDLING EQUIPMENT (SUCH AS A FORKLIFT, DOLLY, OR PALLET JACK) TO REMOVE THE UNIT FROM THE SKID AND MOVE IT TO THE PLACE OF INSTALLATION.

The unit will arrive completely assembled, wrapped in protective plastic on a heavy skid, in a heavy cardboard carton. Immediately upon receipt, inspect the carton for damage. Report any apparent shipping damage or an incorrect shipment to the delivery agent.

When installation is to begin, get someone to assist in removing the carton. Lift it straight up and away from the unit. Do not simply raise it and push backwards - it will break the cover assembly vent handle. Write down the model number, serial number, and installation date of your unit, and keep this information for future reference. Space for these entries is provided at the top of the Service Log in this manual.

Cut the straps holding the unit on the skid, and lift the unit straight up off the skid.

The unit is strapped to a skid, and shipped in a heavy cardboard carton. (Shown is a model BPM-40G with optional right side mounted, double pantry faucet assembly.)

Installation

CAUTION
INSTALLER MUST VERIFY THAT THE INSTALLATION COMPLIES WITH THE APPLICABLE LOCAL CODES AND REGULATIONS. THE UNIT MUST BE INSTALLED BY A LICENSED PLUMBER OR GAS FITTER WHEN INSTALLED WITHIN THE COMMONWEALTH OF MASSACHUSETTS.

WARNING
INSTALLATION OF THE BRAISING PAN MUST BE DONE BY PERSONNEL QUALIFIED TO WORK WITH GAS AND ELECTRICITY. IMPROPER INSTALLATION CAN RESULT IN INJURY TO PERSONNEL AND/OR DAMAGE TO EQUIPMENT.

WARNING
THIS UNIT IS FOR COMMERCIAL USE. NEVER USE HOME OR RESIDENTIAL GRADE GAS CONNECTIONS. THEY DO NOT MEET GAS CODES AND COULD BE HAZARDOUS.

WARNING
ELECTRICALLY GROUND THE UNIT AT THE TERMINAL PROVIDED. FAILURE TO GROUND UNIT COULD RESULT IN ELECTROCUTION AND DEATH.

Electronic spark ignition

Install the braising pan in a well ventilated room for efficient performance. Remove any items which might obstruct or restrict the flow of air for combustion and ventilation. Clear all combustible material from the area directly around the unit.

1. Installation on combustible floors is allowed. Ensure minimum clearance to combustible and noncombustible construction.

	Minimum Clearance	Recommended Clearance
Left Side	0”	2” for service 6” when faucet is installed on left side
Right Side	0”	12-16” for service 6” when faucet is installed on right side
Rear	3”	12” for service

2. Install the unit under a vent hood.

3. Level the unit by adjusting the bullet feet or floor flanges on the legs. Be sure the tilting mechanism has been turned all the way to the horizontal position. Check levelness with a spirit level set on the bottom of the pan body. Anchor the rear legs securely to the floor if floor flanges are ordered or required.

4. Complete piping to the gas service with 3/4” inch IPS pipe or approved equivalent.

5. For unit on casters, the installation shall be made with a connector that complies with the standard for Connectors for Movable Gas Appliances, ANSI Z21.69 - CSA 6.16. Restrain movement of the unit by attaching a cable or chain to the eyelet provided at the back of the frame and anchor the cable or chain to the wall or floor. Make the length and location of the cable such that the unit cannot pull on the gas connection while the cable is connected or quick-disconnect.

6. The gas connection for a unit on casters must be made with a quick-disconnect device that complies with ANSI Z21.41 - CSA 6.9.

7. For electronic spark ignition, provide 115VAC, 60 HZ, 1 phase, 5 AMP electrical service to the field wiring control box at the rear of the electrical console. AN ELECTRICAL GROUND IS REQUIRED. The unit must be electrically ground in accordance with local codes, or in the absence of local codes, with the National Electrical Code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.2, as applicable.

8. Installation must conform with local codes or with the American National Standard Z223, latest edition, National Fuel Gas Code. The pan should be installed in an adequately ventilated room with a provision for adequate air supply to the unit. The best ventilation will use a vent hood and exhaust fan. DO NOT obstruct the flue or vent duct after installation. In Canada, installation must conform to CAN/CGA B149 Installation Codes for Gas Appliances and Equipment and/or local codes.

Installation

9. Adequate space for proper service and operation is required. DO NOT block any air intake spacings to the combustion chamber or obstruct air flow.

10. After the pan has been connected to the gas supply, check all gas joints for leaks. A soap solution or other suitable leak detector should be used. Do not use flame to check for leaks.

11. **PRESSURE TEST WARNING**
    a. **Test pressure exceeding 0.5 PSIG (3.45kPa).** During pressure testing of the gas supply piping system at pressures exceeding 0.5 PSIG , the braising pan and its individual shutoff valve must be disconnected from the gas supply piping system.

    b. **Test pressure equal to or less than 0.5 PSIG (3.45kPa).** During pressure testing of the gas supply piping system at pressures equal to or less than 0.5 PSIG , the braising pan must be isolated from the gas supply piping system by closing its individual manual shutoff valve.

Initial Start-Up

WARNING
WATER IS EXTREMELY HOT AND CAN CAUSE SEVERE BURNS. AVOID CONTACT WITH HOT WATER WHEN EMPTYING UNIT.

Now that your braising pan has been installed, you should test it to ensure that the unit is operating correctly.

1. Remove literature and packing materials from the interior and exterior of the unit.

2. Put enough water into the pan to cover the bottom to a depth of 1/4 to 1/2 inch (6 to 13 mm).. With the pan body in the horizontal position, note how the water lies in the pan, to confirm that the pan was leveled properly during installation.

3. Following “To Start Pan” instructions for your pan model, begin heating the water at a thermostat setting of 235°F. At this setting, heating should continue until the water boils.

4. To shut down the unit, turn the thermostat dial to “OFF”.

5. Turn the tilting handwheel clockwise to pour out the water and to confirm that the pan body can be tilted smoothly from horizontal to vertical. For power tilt models, push the UP/DOWN switch to confirm operation of tilting system.

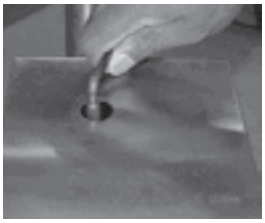
If the unit functions as described above, it is ready for use. If it does not, contact your local Authorized Service Agency.

Operation

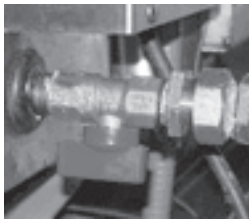
WARNING
KEEP THE AREA AROUND BRAISING PAN FREE AND CLEAR OF COMBUSTIBLE MATERIALS.

CAUTION
KEEP FLOORS IN BRAISING PAN WORK AREA CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY TO AVOID THE DANGER OF SLIPS OR FALLS.

CAUTION
REPLACE THE HOLE PLUG BEFORE CLEANING OTHERWISE WATER COULD ENTER THE ELECTRICAL CONTROL BOX AND DAMAGE THE PARTS.



Tilting pan body



Gas valve "On"

Gas valve "Off"

A. Controls

Operator controls for the braising pans are:

1. Power ON Switch and Power ON indicator

2. The thermostat dial, located on the control console to the right rear of the pan body. This dial is used to turn the thermostat on or off and to set the thermostat for pan temperatures between 175° and 425°F.

3. HEATing indicator light located on the control panel, lights when the burners have ignited.

4. The main supply gas valve, installed on the gas line to the unit.

5. For units with standing pilot flame, the gas control valve is on the Combination Gas Control, which is located under the pan on the gas line to the burner manifold. This valve has settings of "OFF", "PILOT", or "ON" for the Combination Control.

6. For power tilt units a switch is located on the control panel. It is used to raise and lower the pan body.

B. Operating Procedure

1. To Tilt Pan Body
   a. Manual Tilt Model -
      Turn the tilting handwheel clockwise to tilt the pan body, or counterclockwise to return the pan body to horizontal. 23 complete turns of the handwheel will tilt the body 90 degrees to vertical.

   b. Power Tilt Model -
      1. Press the power tilt switch marked "up" to raise the pan or "down" to lower the pan.
      2. The spring loaded switch will return to the OFF (middle) position when you release it.
      3. If the power tilt mechanism stops working (see the Troubleshooting section) and you must raise or lower the pan body without delay, you can tilt the body by hand. Remove the small plug on top of the control box and fit the provided tool into the hole. Turn the tool clockwise to lower it. It may take several minutes to move the pan to the desired position, but the operation can be speeded up by substituting a reversible drill with a 1/4" hexagonal driver bit in place of the tool.

2. For Standard Models with Electronic Ignition
   a. To Start Pan (See Panel Overlay) -
      1. Set the Power Switch to "OFF."
      2. Set the thermostat to "OFF."
      3. Open the main supply gas valve (handle parallel to the gas pipe).
      4. Set Power Switch to "ON."
      5. Rotate the thermostat dial until the Heat Light comes on. (It lights when the main burner is on).

CAUTION
DO NOT HEAT AN EMPTY PAN FOR MORE THAN FIVE MINUTES AT A SETTING HIGHER THAN 300°F. DAMAGE TO THE PAN COULD RESULT.

CAUTION
KEEP FLOORS IN BRAISING PAN WORK AREA CLEAN AND DRY. IF SPILLS OCCUR, CLEAN IMMEDIATELY TO AVOID THE DANGER OF SLIPS OR FALLS.

CAUTION
REPLACE THE HOLE PLUG BEFORE CLEANING OTHERWISE WATER COULD ENTER THE ELECTRICAL CONTROL BOX AND DAMAGE THE PARTS.

b. To Turn Off Pan -
   1. Set the thermostat to "OFF".
   2. Set Power Switch to "OFF."
   3. For a prolonged shut-off period:
      (a) Set the thermostat to "OFF".
      (b) Turn the main gas valve OFF (handle at right angles to the gas pipe).
      (c) Disconnect the electrical power from the unit.

c. If Power Fails -
   1. Do not try to operate the unit until power is restored.
   2. When power is restored, follow directions under "To Start Pan."

3. For Models with Optional Standing-Flame Pilot
NOTE: These models can be operated without a 115 Volt power supply. In case of a power failure, the unit can continue to operate.
   a. To Start Pan -
      1. Set thermostat to "OFF".
      2. Light gas pilot.
         (a) Set knob on Combination Gas Control Valve to "OFF" by depressing the knob slightly and turning it clockwise.
         (b) Turn the main supply gas valve ON (parallel to the gas pipe).
         (c) Tilt the pan, so the pilot burner is easier to reach.
         (d) Hold a lighted match at the pilot burner, while you depress the knob on the Combination Control and turn it counter-clockwise to the "PILOT" position. Continue to hold the knob down for 60 seconds.
         (e) Release the knob. The pilot flame should stay lighted.
         (f) Turn the knob counterclockwise to "ON".
      3. Lower the pan tilt to horizontal or cooking position.
      4. Turn the thermostat dial to the desired temperature.

   b. To Turn Off Pan -
      1. Set the thermostat dial to "OFF".
      2. To turn off the gas pilot, depress the knob on the Combination Control and turn it clockwise to "OFF".

   c. To Relight Pilot -
      1. Close the main supply gas valve.
      2. Set the thermostat to "OFF".
      3. Depress the knob on the Combination Control and turn it clockwise to "OFF".
      4. Wait 5 minutes, then proceed as instructed at "To Start Pan" above.

WARNING
WHEN TILTING BRAISING PAN FOR PRODUCT TRANSFER:

1) USE CONTAINERS DEEP ENOUGH TO CONTAIN AND MINIMIZE PRODUCT SPLASHING.

2) PLACE CONTAINER ON A STABLE, FLAT SURFACE, AS CLOSE TO THE BRAISING PAN AS POSSIBLE.

3) STAND TO THE SIDE OF THE PAN WHILE POURING — NOT DIRECTLY IN THE POUR PATH OF HOT CONTENTS.

4) RETURN PAN BODY TO UPRIGHT POSITION AFTER CONTAINER IS FILLED OR TRANSFER IS COMPLETE.

5) DO NOT OVERFILL CONTAINER. AVOID DIRECT SKIN CONTACT WITH HOT CONTAINER AND CONTENTS.

CAUTION
DO NOT HEAT AN EMPTY PAN FOR MORE THAN FIVE MINUTES AT A SETTING HIGHER THAN 300°F. DAMAGE TO THE PAN COULD RESULT.

WARNING
STEAM CAN CAUSE BURNS. AVOID ESCAPING STEAM WHEN RAISING COVER.

WARNING
ITEMS IN SAUCE OR MELTED FAT CAN SLIDE FORWARD SUDDENLY DURING TILTING AND SPLASH THE HOT LIQUID.

4. To Move a Unit on Casters
   The unit must be anchored with a cable or chain to avoid accidentally breaking or pulling loose the gas connection. When the unit is to be moved, first turn off and disconnect the gas connection.

   Disconnect the cable from its anchor point on the floor or wall. Anchor the unit again as soon as it is in its new operating location or returned to the previous location. Turn on the gas supply and check for leaks with a soap solution. If leaks are found, do not operate the equipment. Call for service.

5. To Preheat the Pan
   The unit must be anchored with a cable or chain to avoid accidentally breaking or pulling loose the gas connection. When the unit is to be moved, first turn off and disconnect the gas connection.
   a. For best braising pan or frying results, preheat pan before you put in any food.

   b. To get an even temperature across the pan, preheat at a setting of 300°F or less for 15 minutes or through several on-off cycles of the burner.

2. For Standard Models with Electronic Ignition
   a. To Start Pan (See Panel Overlay) -
      1. Set the Power Switch to “OFF.”
      2. Set the thermostat to “OFF.”
      3. Open the main supply gas valve (handle parallel to the gas pipe).
      4. Set Power Switch to “ON.”
      5. Rotate the thermostat dial until the Heat Light comes on. (It lights when the main burner is on).

B. Cooking

1. To simmer or slowly heat an item, set the dial at 210°F or lower. Put the cover down to minimize moisture loss, or leave it up to help dry or reduce the product. Set the thermostat higher to cook or drive off moisture faster. You may adjust the thermostat to any setting to cook the item exactly as required.

2. Leave the cover vent open to let excess steam escape. For long simmering operations, you may wish to close the vent to retain moisture.

3. To check progress when the cover is closed, lift the handle of the vent cover slightly, and move it quickly to either side.

4. Standing to one side of the pan (to avoid the steam that will be released) grasp the nearer corner of the cover handle and raise the cover. The cover will stay in the open position until you push it down.

5. To pour product, remove grease, or assist in cleaning, first raise the cover, then tilt the pan forward by turning the tilting handwheel. When you stop turning the wheel, the pan body will hold its position.

Sequence of Operation

The following "action-reaction" outline is provided to help understand how the kettle works.

A. Standard Models with Spark Ignition

1. When the power switch is turned on, it starts the spark igniter and opens the automatic valve for the pilot burner. The spark ignites a pilot flame, which heats the sensor. The sensor then sends a signal to turn off the spark. The flame thereafter acts as a standing pilot until the power is turned off.

2. If the pilot flame is not sensed within 70 seconds after spark begins, a timer shuts down the entire operation. To attempt a second trial for ignition, turn off the power switch. Check the gas supply valves and wait five minutes before trying again by switching power on. If there is still no pilot flame in four tries, close all valves, turn off the power, and contact an authorized Service Agency.

3. When the operator sets a temperature on the thermostat, it allows the automatic gas valve to admit gas to the main burners, where it is ignited by the pilot flame. When the braising pan reaches the set temperature, the thermostat switch opens. This stops the signal to the gas control valve and shuts off gas to the main burner. The pilot flame remains lit. When the pan cools below the set temperature, the thermostat switch closes and starts another cycle. On and off cycling continues and maintains the pan at the desired temperature. This action is indicated by the Heat indicator light.

B. Models with Optional Standing Pilot Ignition

1. When the operator presses down the knob on the Combination Gas Control Valve and turns it to "Pilot", gas is admitted to the pilot burner. Depressing the knob in this position overrides the automatic control, which otherwise shuts off all gas supply when the thermopile is cold. Lighting and maintaining the pilot flame for sixty seconds heats the thermopile to operating temperature, so the thermopile begins to provide electric current at 750 millivolts. Electricity from the thermopile powers the control circuit and the Combination Gas Control Valve. When the thermopile begins operating at full capacity, the knob may be released.

2. When the knob is turned to "ON", the automatic valve for the main burner is able to open. Setting the thermostat to call for heat causes the thermostat to send a signal to the valve, which opens and admits gas to the main burner. Gas from the main burner is ignited by the pilot flame. When the pan reaches the set temperature, the thermostat switch opens, stopping the signal to the main burner valve and causing the valve to close. When the pan cools below the set temperature, the thermostat switch closes and starts another heating cycle. On-off cycling continues and maintains the pan at the desired temperature.

C. All Models

1. The thermostat controls heating by alternately calling for flames at the full capacity of the main burners and then signaling the control to shut the burner off completely. Because the control works in this “all or nothing” way, the pan heats as fast as it can until it reaches the set temperature. Turning the thermostat dial to a higher temperature will cause heating to continue longer, until the pan reaches the higher temperature, but it cannot make the pan heat any faster.

2. The pans are protected from overheating by a secondary thermostat. If the pan temperature rises above 425º F, the thermostat causes the automatic gas control valve to close. When the pan cools, the thermostat automatically resets and permits normal operation to continue.

3. The tilt switch will shut off all burners whenever the braising pan is tilted 10 degrees or more from the horizontal.

4. A gas pressure regulator, which controls gas pressure at the burner manifold is built into the gas control valve.

5. On manual tilt models, turning the tilting handwheel turns a worm gear, which turns a gear wheel on one of the trunnions which support the pan body. Turning the gear wheel produces the tilting action.

6. On power tilt models, pressing the up/down switch operates a gear motor which turns worm and gear wheel as described in item 5 above.

   NOTE: Neither model will heat (operate) when the braising pan has been tilted 10 degrees or more from the horizontal.

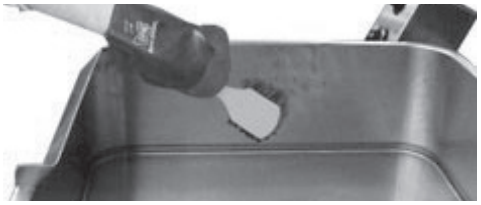
Cleaning

WARNING
KEEP WATER AND SOLUTIONS OUT OF CONTROLS AND ELECTRICAL EQUIPMENT. DO NOT USE A HIGH PRESSURE HOSE TO CLEAN THE CONTROL CONSOLE, ELECTRICAL CONNECTIONS, ETC.

CAUTION
MOST CLEANERS ARE HARMFUL TO THE SKIN, EYES, MUCOUS MEMBRANES AND CLOTHING. PRECAUTIONS SHOULD BE TAKEN TO WEAR RUBBER GLOVES, GOGGLES OR FACE SHIELD AND PROTECTIVE CLOTHING. CAREFULLY READ THE WARNINGS AND FOLLOW THE DIRECTIONS ON THE LABEL OF THE CLEANER TO BE USED.

WARNING
DO NOT SPRAY WATER DIRECTLY ON BURNERS AND GAS COMBUSTION CHAMBERS.

NOTICE
NEVER LEAVE A CHLORINE SANITIZER IN CONTACT WITH STAINLESS STEEL SURFACES LONGER THAN 30 MINUTES. LONGER CONTACT CAN CAUSE CORROSION.



Use a brush, sponge, cloth, plastic or rubber scraper, or plastic wool to clean.

Don't use metal implements or steel wool.

Do not spray water directly on burners and gas combustion chambers.

1. Before any cleaning operation, shut off the burner by turning the thermostat dial to "OFF". If water or cleaning solution will be sprayed, unplug the unit from the electric power source, or shut off the power at the circuit breaker or fuse panel.

2. Clean all food-contact surfaces soon after use, before the pan has cooled completely. If the unit is in continuous use, thoroughly clean and sanitize both interior and exterior at least once every 12 hours.

3. Scrape or rinse out large amounts of food residues, then wash the inside of the pan body with a mixture of hot water and soap or an appropriate detergent, such as Mikro-Quat from ECOLAB. Follow the detergent supplier's recommendations on strength of the solution to use. Rinse the pan thoroughly with hot water and drain completely.

4. To remove materials stuck to the equipment, use a brush, sponge, cloth, plastic or rubber scraper, or plastic wool along with the detergent or soap solution. To minimize the effort required in washing, let the detergent solution sit in the pan and soak into the residue, or heat the detergent solution briefly in the pan. Do NOT use any abrasive materials or metal implement that might scratch the surface, because scratches make the pan hard to clean and provide places for bacteria to grow. Do NOT use steel wool, which may leave particles imbedded in the pan surface and cause eventual corrosion and pitting.

5. As part of the daily cleaning program, clean all external and internal surfaces that may have been soiled. Remember to check such parts as the underside of the cover, control console, etc.

6. Controls and the control console may be cleaned with a damp cloth or sprayed with a garden hose spray connected to city water supply. Do not use a pressure sprayer directly on the unit or electrical parts.

7. The exterior surface of the unit may be polished with a recognized stainless steel cleaner.

8. If the equipment needs to be sanitized, use a sanitizing solution equivalent to one that supplies 100 parts per million available chlorine. Obtain advice on the best sanitizing agent from your supplier of sanitizing products. Following the supplier's instructions, apply the sanitizing agent after the unit has been cleaned and drained. Rinse off the sanitizer thoroughly.

9. If there is difficulty removing mineral deposits or a film left by hard water or food residues, clean the pan thoroughly and then use a deliming agent, such as Groen De-limer/De-scaler (PN 140513), in accordance with the manufacturer's directions. Rinse and drain the unit before further use.

10. If especially difficult cleaning problems persist, contact your cleaning product representative for assistance.

Maintenance

WARNING
ELECTRIC POWER ALWAYS SHOULD BE SHUT OFF BEFORE WORK IS DONE ON INTERNAL COMPONENTS.

WARNING
DISCONNECT ELECTRICAL POWER FROM THE UNIT BEFORE ATTEMPTING TO GREASE THE TRUNNION BEARINGS.

Your braising pan is designed to require minimum maintenance, but certain parts may need replacement after prolonged use. After installation, no user adjustment should be necessary. If a service need arises, only authorized personnel should perform the work.

Service personnel should check the unit at least once a year. This periodic maintenance should include inspecting electrical wires and connections, cleaning the inside of the control console, and possible adjustment of the pilot light. (Units with standing pilot ignition only) At least twice a year, grease the two trunnion bearings and worm gear.

We recommend the use of number two grade LGI lithium grease. Add grease through the zerk fittings on the gear hosing until grease flows out of the bearings around trunnion shaft. Also, add grease in the gear to cover arc that is in contact with the worm gear. Clean up excess grease.

A Service Log is provided with the warranty information at the back of this manual. Each time service is performed on your equipment, enter the date on which the work was done, what was done, and who did it. Keep the manual with the equipment for quick and easy reference.

Troubleshooting

Your Groen braising pan will operate smoothly and efficiently if properly maintained. However, the following is a list of checks to make in the event of a problem. If the actions suggested do not solve the problem, call your qualified Groen Service Representative. For the phone number of the nearest agency, call your area Groen representative or the Groen Parts and Service Department. If an item on the list is followed by X, the work should only be performed by a qualified service representative.

WARNING

BEFORE REPLACING ANY PARTS, DISCONNECT THE UNIT FROM THE ELECTRICAL POWER SUPPLY AND CLOSE THE MAIN GAS VALVE. ALLOW FIVE MINUTES FOR GAS TO VENT. USE OF ANY REPLACEMENT PARTS OTHER THAN THOSE SUPPLIED BY THE MANUFACTURER OR THEIR AUTHORIZED DISTRIBUTORS CAN CAUSE INJURY TO THE OPERATOR AND DAMAGE TO THE EQUIPMENT AND WILL VOID ALL WARRANTIES.

SERVICE PERFORMED BY OTHER THAN FACTORY AUTHORIZED PERSONNEL WILL VOID ALL WARRANTIES.

A. ALL MODELS

SYMPTOM	WHO	WHAT TO CHECK (X indicates work that should only be performed by a qualified service representative)
Pan is hard to tilt.	Authorized Service Rep Only	a. Gears or foreign materials, lubrication, and alignment. X b. Broken tilt or worm gears. X
Burners will not light.	User	a. That the main gas supply valve is open (handle is in line with the gas pipe) b. Gas supply to the braising pan is at specified pressure. c. That the pan body is horizontal.
	Authorized Service Rep Only	d. Thermostat operation. The thermostat should click when the dial is rotated to settings above and below the temperature of the pan. X
Pan continues to heat after it reaches desired temperature.	User	a. Thermostat dial setting.
	Authorized Service Rep Only	b. Thermostat calibration. X c. Thermostat operation. The thermostat should click when the dial is rotated to settings above and below the temperature of the pan. X
Pan stops heating before reaching desired temperature.	User	a. Thermostat dial setting.
	Authorized Service Rep Only	b. Thermostat calibration. X c. Thermostat operation. The thermostat should click when the dial is rotated to settings above and below the temperature of the pan. X
Pan heats unevenly.	User	a. That the pan body is horizontal. b. That the pan is preheated properly in accordance with the instructions in the Operation section of this manual.

B. STANDARD MODELS WITH ELECTRONIC IGNITION SYSTEM (REFER TO SCHEMATIC)

SYMPTOM	WHO	WHAT TO CHECK (X indicates work that should only be performed by a qualified service representative)
System does not produce a spark.	Authorized Service Rep Only	a. Thermostat, and close the contacts if they are open X b. AC voltage between terminals on secondary side of transformer. If it is not 24 Volt, replace the transformer X c. That the high tension cable is in good condition. If cracked or brittle, replace. X d. Pilot electric ceramic for crack or break. X e. Pilot spark gap. Regap. X
Spark is present but the pilot will not light.	Authorized Service Rep Only	a. That the pilot valve is securely connected to terminals. X b. For 24 VAC at terminals PV and to ground. If 24V is not present, replace the ignition control module. X b. That gas pressure is at least 3.5” W.C.(8.7millibars). X c. For gas at the pilot. If it is not flowing: (1) Check the pilot gas line for kinks and obstructions. X (2) Clean orifice, if necessary. X (3) Check solenoid operation pilot valve on gas valve. Repair or replace as necessary. X d. That the pilot spark gap is located in the pilot gas stream. If not, adjust or replace the pilot burner. X e. For drafts. Shield the pilot burner, if necessary. X
Pilot lights, but main burner will not come on and spark does not stay on.	Authorized Service Rep Only	a. Check operating thermostat to see that it is closed at temperature setting higher than that of the current pan temperature. X b. For 24 V between terminals MV and to ground. If 24V is not present, replace the ignition control module. X c. That gas pressure is at least 3.5” W.C.(8.7millibars). X d. Electrical connections of the main valve to terminals, to assure that they are securely attached. Check solenoid operation for main valve on gas valve. Repair or replace as necessary. X e. That secondary thermostat switch is closed.X
Pilot lights, but main burner will not come on, the spark stays on.	Authorized Service Rep Only	a. Check for improper grounding. If necessary, repair with high temperature wire. X b. Pilot burner ceramic insulator for cracks. X c. That high tension cable is not grounded out. If it is, correct the ground-out condition or the pilot burner. X d. For proper gas pressure. X e. Clean pilot assembly, or replace if necessary. X f. Tighten all mechanical and electrical connections. X g. Replace ignition control module. X
Main burner comes on but will not stay on.	Authorized Service Rep Only	a. Check burner ground for bad wire or connection. Replace if necessary with high temperature wire. X b. Check for low gas supply pressure. If necessary, replace ignition control module. X

C. MODELS WITH STANDING PILOT IGNITION SYSTEM

SYMPTOM	WHO	WHAT TO CHECK (X indicates work that should only be performed by a qualified service representative)
Pilot will not light.	User	a. Lighting procedure, to ensure that the instructions in the Operation section of this manual are followed.
	Authorized Service Rep Only	b. That the pilot gas supply line is purged of air. X c. Pilot gas adjustment screw, to ensure that it is open. X d. Pilot tubing and orifice for clogging. X
Pilot flame goes out when Combination Control knob is released.	Authorized Service Rep Only	a. Pilot gas adjustment. X b. Are connections from Powerpile generator to Pilotstat power unit and Powerpile operator clean and secure? X c. Are open and closed circuit output voltages of the generator in the acceptable range shown by the charts in the manual for the W720 Systems Tester? X d. Resistance of the Pilotstat power unit. X e. If an appropriate meter is not available, replace the generator first, then the power unit. X
Pan will not heat, and pilot light is out.	User	a. Is the Combination Gas Control Valve knob turned ON? b. Check the pilot tubing and orifice for clogging.
	Authorized Service Rep Only	c. Are connections from Powerpile generator to Pilotstat power unit and Powerpile operator clean and secure?X d. Are Open and closed circuit output voltages of the generator in the acceptable range shown by the charts in the manual for the W720 Systems Tester?X e. If an appropriate meter is not available, replace the generator. X
Pan will not heat, but pilot light is burning.	Authorized Service Rep Only	a. That secondary thermostat switch is closed.

D. MODELS WITH POWER TILT

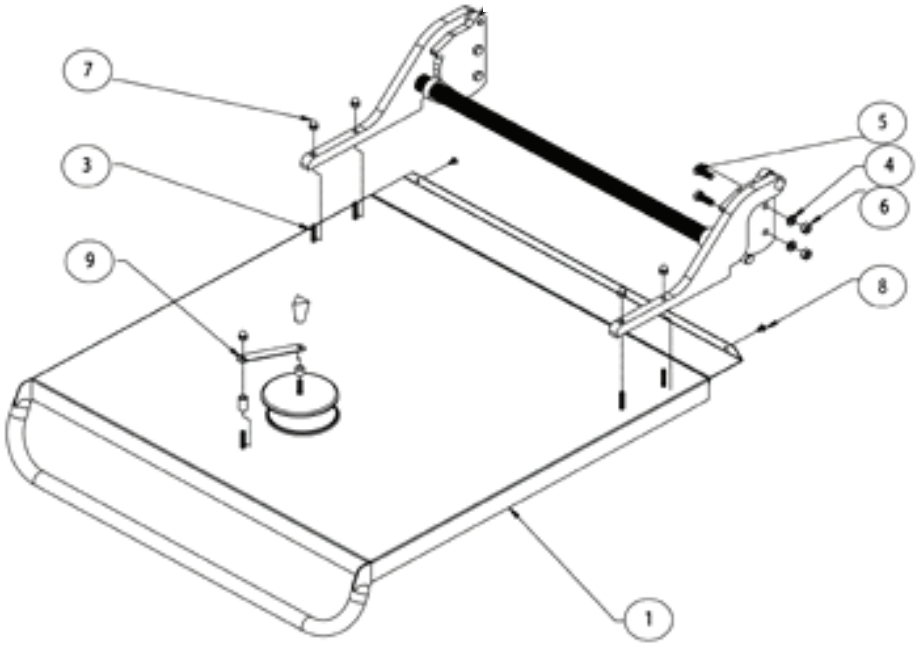
SYMPTOM	WHO	WHAT TO CHECK (X indicates work that should only be performed by a qualified service representative)
Pan will not tilt.	User	a. That electrical power supply is on. b. For overheated actuator motor. Wait 15 minutes for motor to cool, then operate the power tilt.
	Authorized Service Rep Only	c. For blown fuse on motor control circuit - Replace fuse with approved equal. d. For damaged DC rectifier and operating relays. e. Correct setting of upper and lower limit switches.

Parts List
Stand & Foot Assembly

Key	Description	Part #
1	CASTER KIT (SET OF 2 WITH BRAKE AND 2 W/O BRAKE)	146354
1	CASTER WITH BRAKE (W/O FOOT ADAPTER)	146513
1	CASTER WITHOUT BRAKE (W/O FOOT ADAPTER) NOT SHOWN	146515
2	FOOT ADAPTER	146516
3	FLANGED FOOT (W/O FOOT ADAPTER)	146521
4	BULLET FOOT (W/O FOOT ADAPTER)	146628
5	FRICTION RING	146520

Parts List
Cover & Counterbalance Assemblies

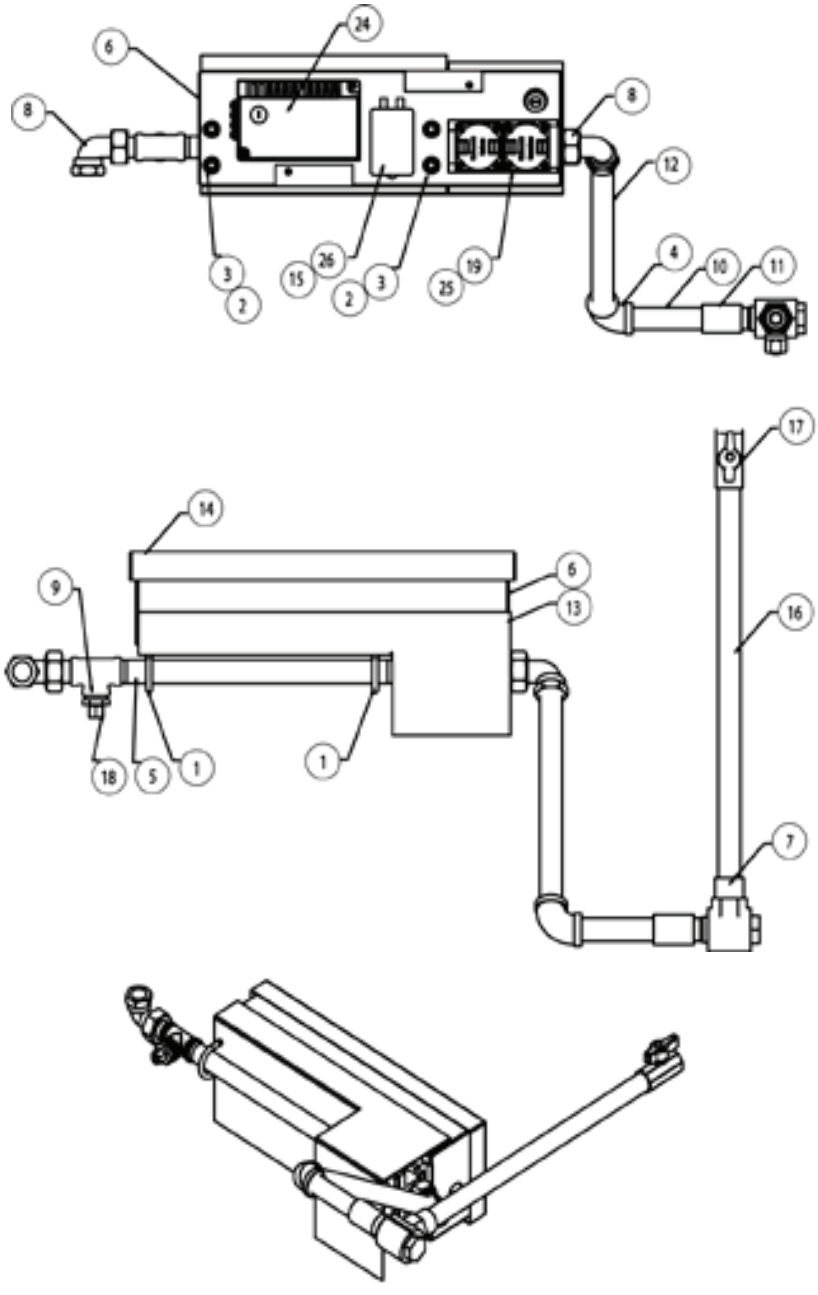
Key	Qty	Description	Part #
1	1	COVER ASSEMBLY, 30 GALLON	144812
1	1	COVER ASSEMBLY, 40 GALLON	144453
2	1	COUNTERBALANCE ASSEMBLY, 30 GALLON	145480
2	1	COUNTERBALANCE ASSEMBLY, 40 GALLON	144790
3	4	STUD WELD, 1/4”-20 X 1-1/4”	012589
4	4	WASHER, LOCK 3/8”	005618
5	4	SCREW, HEX HEAD CAP 3/8”-16 X 1”	005612
6	4	NUT, HEX 3/8”-16	005619
7	4	DOME NUTS, 1/4-20	090567
8	2	SCREW, TRUSS HEAD, #10-32 X 3/8”	004173
9	1	VENT COVER ASSY.	MS17494



Parts List
Gas Piping Assemblies

Key	Qty	Description	Part #
1	1	U BOLT 3/4 PIPE	N87786
2	5	WASHER PLAIN 1/4	005472
3	5	NUT HEXAGON KEPS 1/4-20 WITH	012940
4	1	ELBOW 90 DEG 1/2 NPT	008747
5	1	NIPPLE 1/2 NPT X 11	005673
6	1	IGNITION MODULE PLATE ASSY ELECTRONIC IGNITION	144777
6	1	IGNITION MODULE PLATE ASSY STANDING PILOT	146510
7	1	SWIVEL JOINT 1/2 NPT (GAS)	076680
8	2	UNION ELBOW	141354
9	1	TEE 1/2 NPT	008772
10	1	NIPPLE 1/2 NPT X 3.5	009816
11	1	COUPLING FULL 1/2 NPT	005722
12	1	NIPPLE 1/2 NPT X 10	005558
13	1	REAR RADIATION HEAT SHIELD	146145
14	1	IGNITION MODULE COVER	146146
15	2	SCREW ROUND HEAD MACHINE	018384
16	1	NIPPLE 1/2 NPT X 12	005600
17	1	VALVE GAS MANUAL SHUTOFF 1/2	098458
18	1	CONNECTOR MALE 1/2	049429
19	1	FITTING COMPRESSION 90	004584
20	1	TUBE, IGNITION SUPPLY TUBE, 1/4 (NOT SHOWN)	146119
24	1	1 PILOT SUPPLY TUBE, 1/4" (STANDING PILOT) (NOT SHOWN)	149054
24	1	PILOT SUPPLY TUBE, 1/4 (NOT SHOWN)	146118
23	1	GROMMET 7/8" (NOT SHOWN)	007400
24	1	SPARK IGNITION MODULE-ELECTRONIC IGNITION ONLY	144150
25	1	GAS CONTROL VALVE-ELECTRONIC IGNITION-NATURAL GAS	098443
25	1	GAS CONTROL VALVE-ELECTRONIC IGNITION-PROPANE	098444

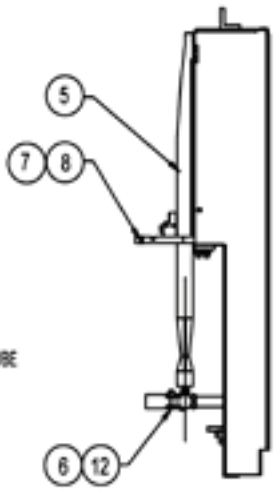
Key	Qty	Description	Part #
25	1	GAS CONTROL VALVE-STANDING PILOT-NATURAL GAS	002648
25	1	GAS CONTROL VALVE-STANDING PILOT-PROPANE	002649
26	1	HIGH LIMIT THERMOSTAT (GAS)	013481
27	1	ELBOW FEMALE 90 DEG (NOT SHOWN)	050500

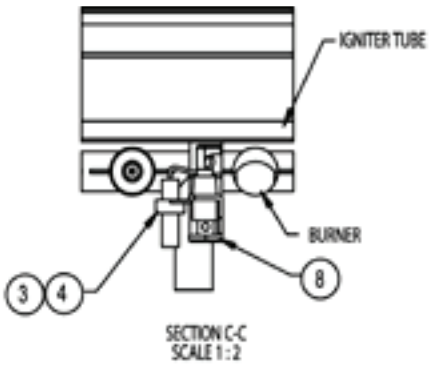


Parts List
Combustion Chamber & Gas Manifold Assemblies

Key	Qty	Description	Part #
1	1	COMBUSTION CHAMBER ASSY, 30 GAL.	145941
1	1	COMBUSTION CHAMBER ASSY, 40 GAL.	144843
2	1	MANIFOLD, 30 GAL.	145944
2	1	MANIFOLD, 40 GAL.	144845
3	1	PILOT BURNER W/O PILOT ORIFICE, ELECTRONIC IGNITION ONLY	097024
3	1	PILOT BURNER, STANDING PILOT-NATURAL GAS	137511
3	1	PILOT BURNER, STANDING PILOT-PROPANE	123684
3	1	PILOT ORIFICE, ELECTRONIC IGNITION-NATURAL GAS	119449
3	1	PILOT ORIFICE, ELECTRONIC IGNITION-PROPANE	098647
4	1	MOUNTING BRACKET FOR PILOT	119418
5	11	BURNER TUBE, 30 GAL.	144847
5	15	BURNER TUBE, 40 GAL.	144847
6	21	NUT, KEPS 1/4-20	012940
7	1	IGNITION TUBE, 30 GAL.	145957
7	1	IGNITION TUBE, 40 GAL.	145912
8	1	IGNITION TUBE ORIFICE, -30 GAL.-NATURAL GAS	101623
8	1	IGNITION TUBE ORIFICE, -30 GAL.-PROPANE	101625
8	1	IGNITION TUBE ORIFICE, -40 GAL.-NATURAL GAS	101665
8	1	IGNITION TUBE ORIFICE, -40 GAL.-PROPANE	101623
9	2	SCREW, #10-32 X 1"	093478
10	2	IGNITION TUBE CLAMP	085107
11	2	NUT, KEPS 10-32	071256
12	3	SCREW, ROUND HEAD 1/4"-20 X 1"	012847
13	11	BURNER ORIFICE, 30 GAL.-NATURAL GAS	128158
13	11	BURNER ORIFICE, 30 GAL.-PROPANE	146148
13	15	BURNER ORIFICE, 40 GAL.-NATURAL GAS	128158
13	15	BURNER ORIFICE, 40 GAL.-PROPANE	146148

Key	Qty	Description	Part #
-	1	RADIATION SHIELD WELDMENT, 30 GALLON (NOT SHOWN)	146116
-	1	RADIATION SHIELD WELDMENT, 40 GALLON (NOT SHOWN)	144833





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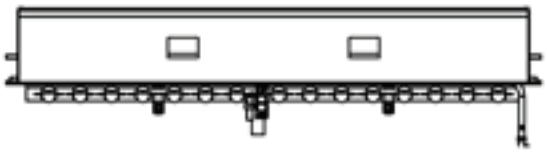
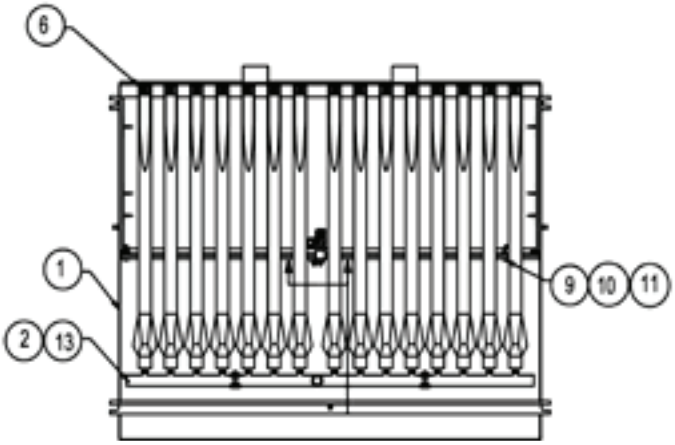
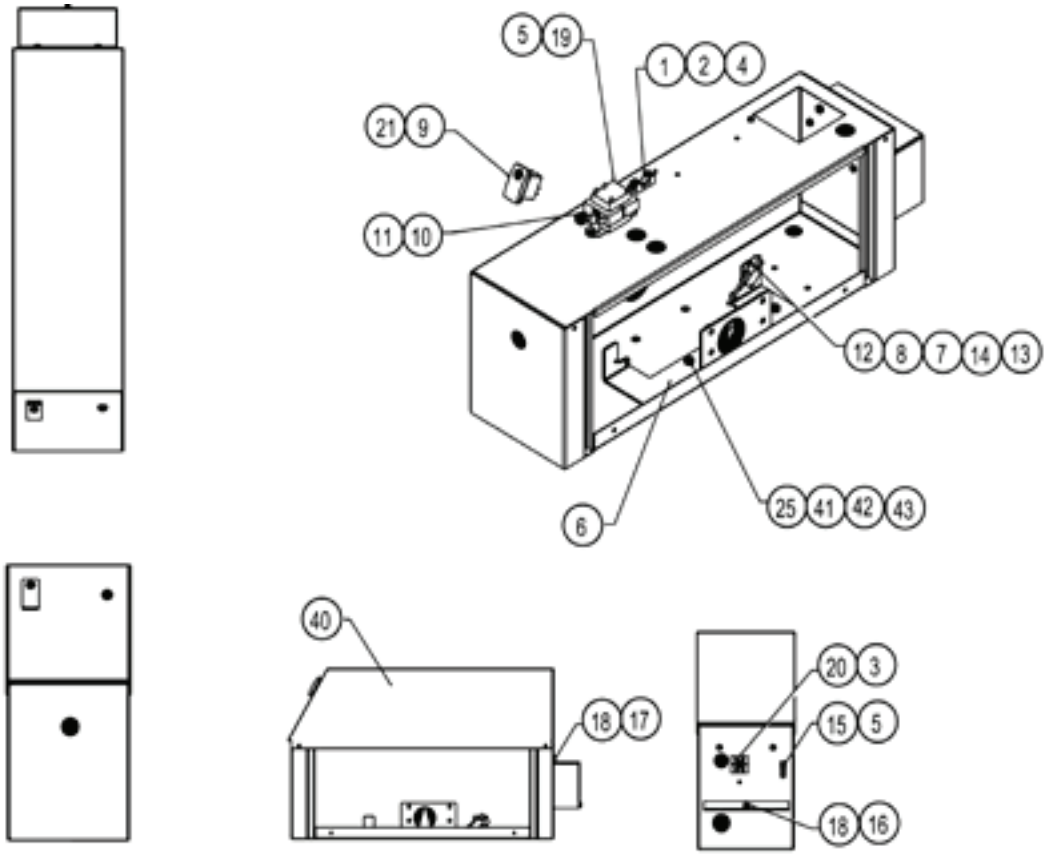




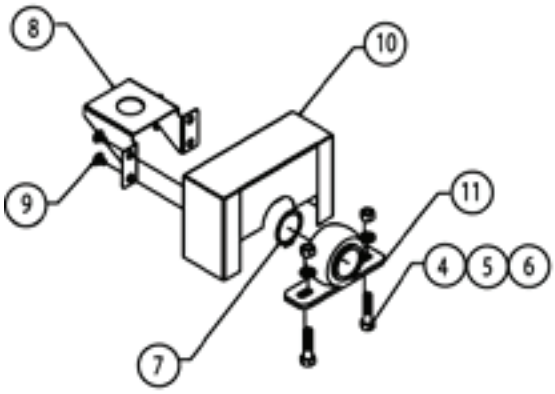
Parts List
Electrical Control Components - Gas

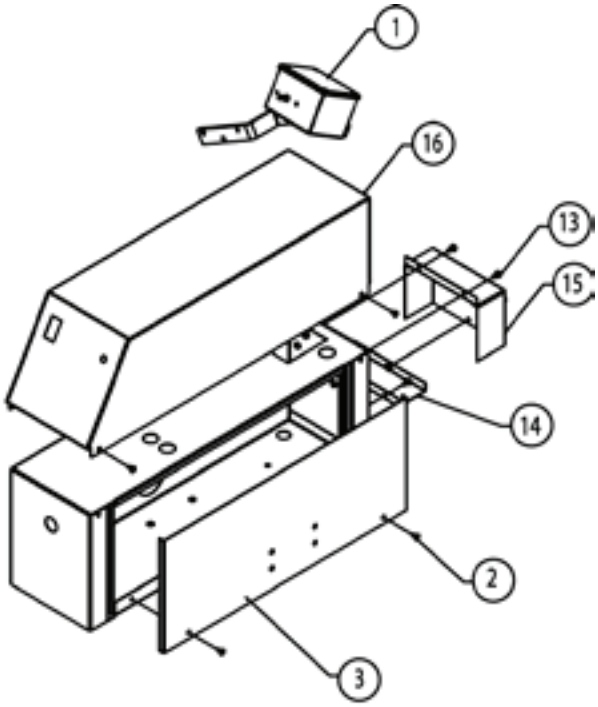


Parts List
Electrical Control Components - Gas

Key	Qty	Description	Part #
1	1	FUSE HOLDER MAIN CONTROLS-ELECTRONIC IGNITION ONLY	077854
2	1	FUSE -24VAC CONTROL, 3A, TYPE AG-ELECTRONIC IGNITION ONLY	077853
3	1	SCREW, ROUND HEAD #8-32 X 1-1/4"-ELECTRONIC IGNITION ONLY	005056
4	3	SCREW, ROUND HEAD #6-32 X 3/8"	009697
5	4	SCREW, HEX SLOTTED HD #8-32 X 3/8"-ELECTRONIC IGNITION ONLY	006979
6	1	TILT SWITCH BRACKET WELD ASSY.-ELECTRONIC IGNITION ONLY	145689
7	1	BARRIER INSULATION-ELECTRONIC IGNITION ONLY	003490
8	1	TILT LIMIT SWITCH (HEAT CUT-OFF)-ELECTRONIC IGNITION ONLY	002982
9	1	POWER SWITCH WITH RED INDICATOR-ELECTRONIC IGNITION ONLY	144857
10	1	LIGHT, INDICATOR AMBER 24V AC-ELECTRONIC IGNITION ONLY	116384
11	1	LAMP GASKET-ELECTRONIC IGNITION ONLY	137434
12	2	SCREW, ROUND HEAD #4-40 X 3/4"	003122
13	2	NUT HEXAGON #4-40	003121
14	2	WASHER, #6 INTERNAL TOOTH	013418
15	1	GROUND LUG-ELECTRONIC IGNITION ONLY	119829
16	1	TERMINAL BLOCK BOX BOTTOM-ELECTRONIC IGNITION ONLY	146206
17	1	TERMINAL BLOCK BOX-ELECTRONIC IGNITION ONLY	146205
18	6	SCREW, HEX SLOTTED-ELECTRONIC IGNITION ONLY	069773
19	1	TRANSFORMER [120/24 VAC, 20VA]-ELECTRONIC IGNITION ONLY	137487
20	1	TERMINAL BLOCK [2-POLE]-ELECTRONIC IGNITION ONLY	003887
21	1	SWITCH SEAL-ELECTRONIC IGNITION ONLY	144963
22	3'	SLEEVING SIZE 7/16"-ELECTRONIC IGNITION ONLY (NOT SHOWN)	003874
23	2	ELBOW 90 DEG 3/8"-ELECTRONIC IGNITION ONLY (NOT SHOWN)	004098
24	6"	CONDUIT FLEXIBLE (NOT SHOWN)	006940
25	3	CONDUIT CLAMP 3/8"-ELECTRONIC IGNITION ONLY (NOT SHOWN)	008224
26	1	WIRE HARNESS,CONTROL LOW VOLTAGE BPM-30,40G-ELECTRONIC IGNITION ONLY (NOT SHOWN)	146191
27	1	WIRING HARNESS POWER HIGH VOLTAGE BPM-30,40G-ELECTRONIC IGNITION ONLY (NOT SHOWN)	144962
28	2	NUT LOCK 1/2" (NOT SHOWN)	005487
29	2	ELBOW 90 DEG 3/8"-ELECTRONIC IGNITION ONLY (NOT SHOWN)	004098
30	6	INSULATOR CONDUIT-ELECTRONIC IGNITION ONLY (NOT SHOWN)	071934
32	1	NUT, DOME #10-32 (NOT SHOWN)	128756
33	1	SCREW, HEX HD CAP #10-32 X 1/2" (NOT SHOWN)	128757
34	1	HIGH LIMIT THERMOSTAT (GAS) (NOT SHOWN)	013481
35	1	SPARK IGNITION MODULE-ELECTRONIC IGNITION ONLY (NOT SHOWN)	144150
36	1	CONTROL THERMOSTAT (GAS), 100-450 (NOT SHOWN)	041700
37	1	THERMOSTAT KNOB (NOT SHOWN)	128525
38	1	THERMOSTAT GASKET (NOT SHOWN)	123585
39	1	THERMOSTAT ADAPTER (NOT SHOWN)	107172
40	1	ELECTRICAL PANEL COVER ASSEMBLY-ELECTRONIC IGNITION ONLY-MANUAL TILT	146129
40	1	ELECTRICAL PANEL COVER ASSEMBLY-ELECTRONIC IGNITION ONLY -POWER TILT (NOT SHOWN)	146127
40	1	ELECTRICAL PANEL COVER ASSEMBLY-STANDING PILOT ONLY (NOT SHOWN)	146375
41	1	TILT LIMIT SWITCH (HEAT CUT-OFF)-STANDING PILOT ONLY (NOT SHOWN)	146373
42	1	WIRING HARNESS-STANDING PILOT ONLY (NOT SHOWN)	146519
43	1	GAS CONTROL VALVE-ELECTRONIC IGNITION-NATURAL GAS (NOT SHOWN)	098443
43	1	GAS CONTROL VALVE-ELECTRONIC IGNITION-PROPANE (NOT SHOWN)	098444
43	1	GAS CONTROL VALVE-STANDING PILOT-NATURAL GAS (NOT SHOWN)	002648
43	1	GAS CONTROL VALVE-STANDING PILOT-PROPANE (NOT SHOWN)	002649

Parts List
Trunnion Cover



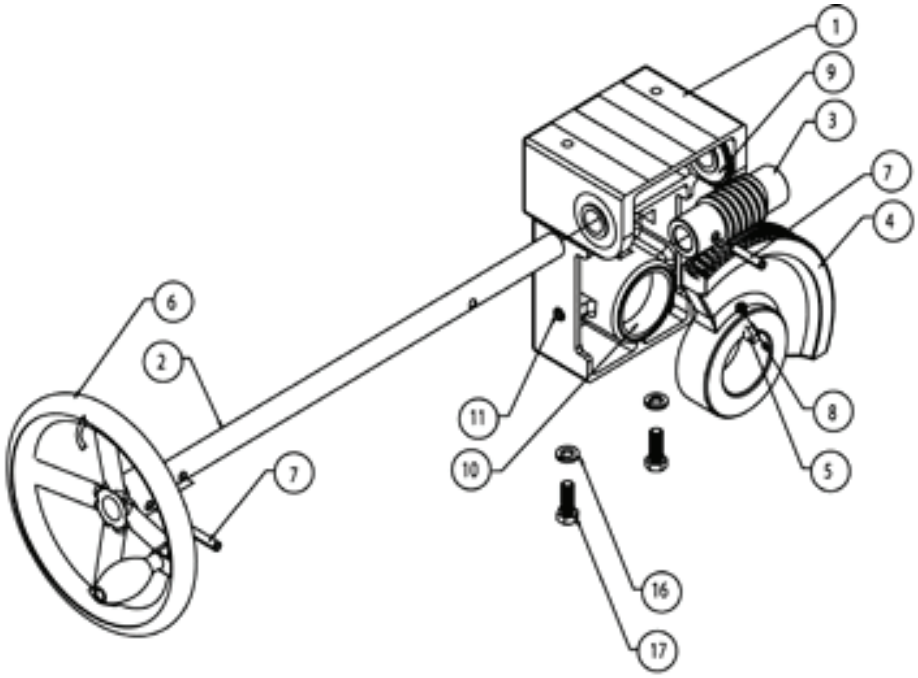


Parts List
Trunnion Cover

Key	Qty	Trunnion Cover Description	Gas Part #s		
			Manual Tilt Electronic Ignition	Power Tilt Electronic Ignition	Manual Tilt Standing Pilot
1	1	THERMOSTAT BOX ASSEMBLY	146131	146131	146131
1a	4	WASHER LOCK 1/4	005655	005655	005655
1b	1	THERMOSTAT BOX SHELL	146132	146132	146132
1c	1	COVER, CONTROL CONSOLE SHELL	146147	146147	146147
1d	1	BRACKET, THERMOSTAT BOX	146130	146130	146130
1e	5	NUT DOME HIGH PROFILE - 1/4-20	090567	090567	090567
1f	14”	CONDUIT SEALTITE 3/8	054306	054306	054306
1g	1	CONNECTOR 3/8 NPT 45	001696	001696	001696
1h	1	BOOT,RUBBER CAP FOR 3/8	132044	132044	132044
1i	24”	CONDUIT SEALTITE 3/8	054306	054306	054306
1j	1	CONNECTOR 3/8 NPT 45	001696	001696	001696
1k	1	CONNECTOR 90 DEG. ELBOW	001695	001695	001695
2	6	SCREW TRUSS HEAD	005764	005764	005764
3	1	RIGHT TRUNNION SIDE PANEL	145688	145688	145688
4	2	NUT HEX	005619	005619	005619
5	2	WASHER LOCK	005618	005618	005618
6	2	SCREW HEX HEAD CAP	005615	005615	005615
7	1	RETAINING RING	124764	124764	124764
8	1	FAUCET BRACKET	137738	137738	137738
9	4	SCREW, 1/4-20 x 3/8” TRUSS	125609	125609	125609
10	1	PILLOW BLOCK BOX	144314	144314	144314
11	1	PILLOW BLOCK	002989	002989	002989
13	5	SCREW-HEX SLOTTED	069773	069773	069773
14	1	TERMINAL BLOCK BOTTOM	146206	146206	-
15	1	TERMINAL BLOCK BOX	146205	146205	-
16	1	ELECTRICAL PANEL COVER ASSY	146129	146127	146375
-	1	PANEL REAR HEAT SHIELD, BPM-30G (NOT SHOWN)	150621	150621	150621
-	1	PANEL REAR HEAT SHIELD, BPM-40G (NOT SHOWN)	150622	150622	150622
-	64”	COVER GASKET (NOT SHOWN)	145662	145662	145662

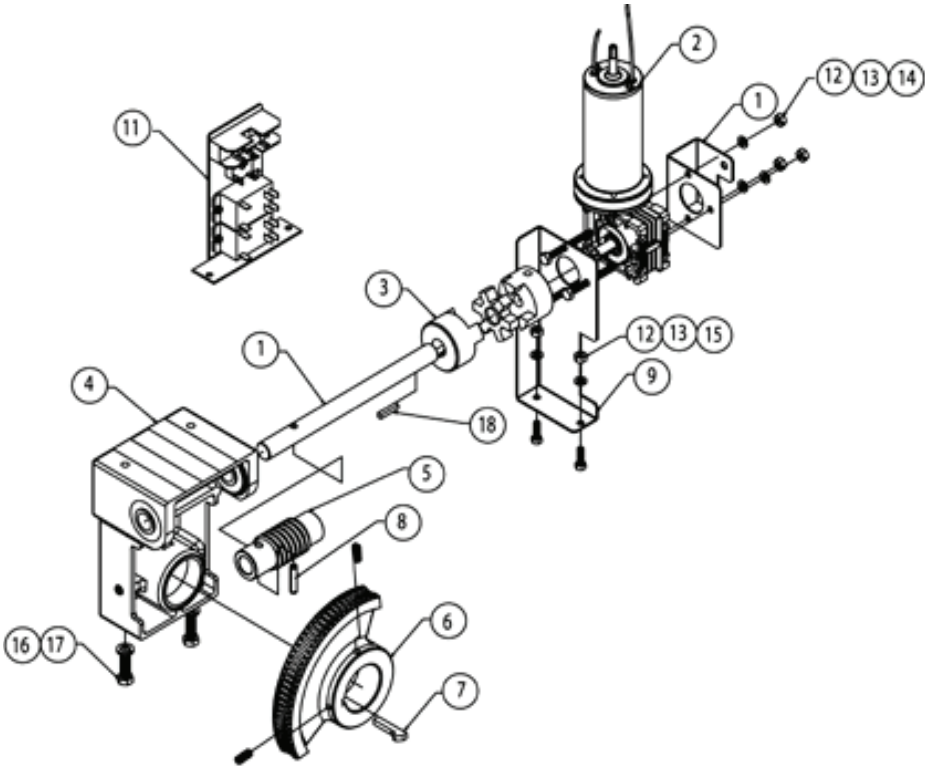
Parts List
Manual Tilt Assembly

Key	Qty	Description	Part #
1	1	GEAR CARRIER	002624
2	1	SHAFT, HANDWHEEL	144834
3	1	GEAR, WORM	128001
4	1	GEAR SECTOR	009829
5	1	KEY GIB	012031
6	1	HANDWHEEL	012061
7	2	PIN ROLL	012614
8	2	SCREW SET SOCKET	012060
9	2	BEARING ROLLER	002790
10	2	BEARING SLEEVE	137239
11	1	PLUG PIPE	010286
14	1	FITTING GREASE 90 (NOT SHOWN)	012195
15	1	BUSHING SNAP (NOT SHOWN)	000453
16	2	WASHER LOCK	005618
17	2	SCREW HEX HEAD CAP	005612



Parts List
Power Tilt Components
Gas-Electronic Ignition

Key	Qty	Description	Part #
1	1	ELECTRIC TILT SHAFT	144791
2	1	POWER LIFT MOTOR [115 VDC]	144792
3	1	SHAFT COUPLING	144615
4	1	GEAR CARRIER ASSY	137880
4a	1	CARRIER GEAR	002624
4b	2	BEARING ROLLER	002790
4c	2	BEARING SLEEVE	137239
4d	1	PLUG PIPE	010286
4e	1	FITTING GREASE 90	012195
5	1	GEAR, WORM	128001
6	1	GEAR SECTOR	009829
6a	2	SCREW SET SOCKET	012060
7	1	KEY GIB	012031
8	1	PIN ROLL	012614
9	1	MOTOR BRACKET	146114
10	1	REAR MOTOR BRACKET	146117
11a	1	FUSE HOLDER [MOTOR]	077840
11b	1	FUSE [MOTOR, LP-CC-5]	144855
11c	1	RECTIFIER	145660
11d	2	RELAY [24VAC, DPST, N0]-2 REQ'D	119814
12	5	NUT HEX HEAD 1/4"-20	005601
13	5	WASHER LOCK 1/4"	005655
14	3	SCREW HEX HEAD CAP 1/4"-20 X 2-1/2" LONG	052584
15	2	SCREW HEX HEAD CAP	005609
16	2	WASHER LOCK 3/8"	005618
17	2	SCREW HEX HEAD CAP 3/8"-16 X 1" LONG	005612
18	1	ELECTRIC TILT SHAFT KEY	013386
-	1	HOLE PLUG-1" (NOT SHOWN)	146369
-	1	MANUAL OVERRIDE CRANK (NOT SHOWN)	145659
-	1	POWER SWITCH W/O INDICATOR (NOT SHOWN)	144858
-	2	TILT LIMIT SWITCH (POWER TILT UP/DN) (NOT SHOWN)	002982
-	1	WIRE HARNESS,LOW VOLTAGE (NOT SHOWN)	146197
-	1	WIRE HARNESS-HIGH VOLTAGE (NOT SHOWN)	144973



Parts List
Fuel Gas Conversion

(For conversion of a natural gas unit to propane or a propane model to natural gas)

BPM, BPP WITH ELECTRONIC IGNITION

Qty	Description	Natural Gas Part #	LP Gas Part #
1	PILOT ORIFICE	119449	098647
%	BURNER ORIFICE	128158	146148
1	IGNITION TUBE ORIFICE 40 GAL.	101665	101623
1	IGNITION TUBE ORIFICE 30 GAL.	101623	101625
1	GAS VALVE	098443	098444

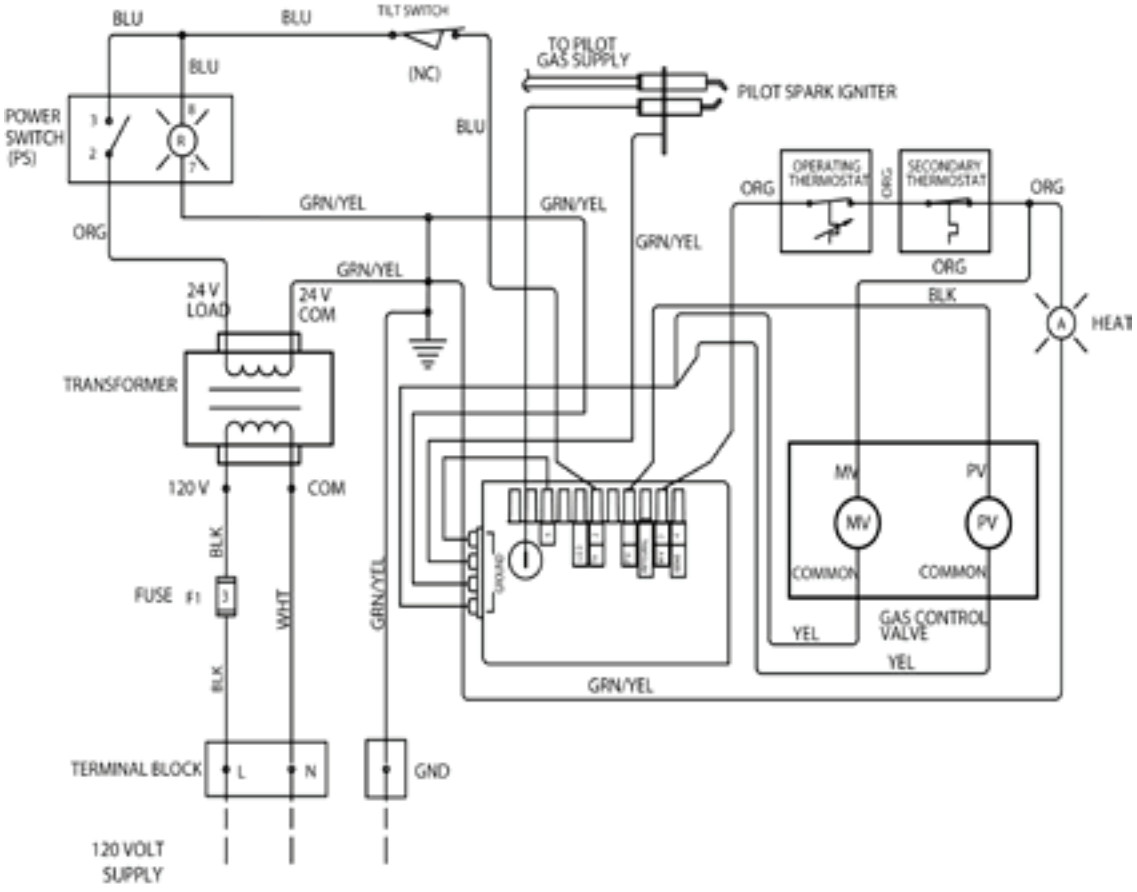
BPM-30GS, 40GS WITH STANDING PILOT

Qty	Description	Natural Gas Part #	LP Gas Part #
1	PILOT ORIFICE	137511	123689
%	BURNER ORIFICE	128158	146148
1	IGNITION TUBE ORIFICE 40 GAL.	101665	101623
1	IGNITION TUBE ORIFICE 30 GAL.	101623	101625
1	GAS VALVE	002648	002649

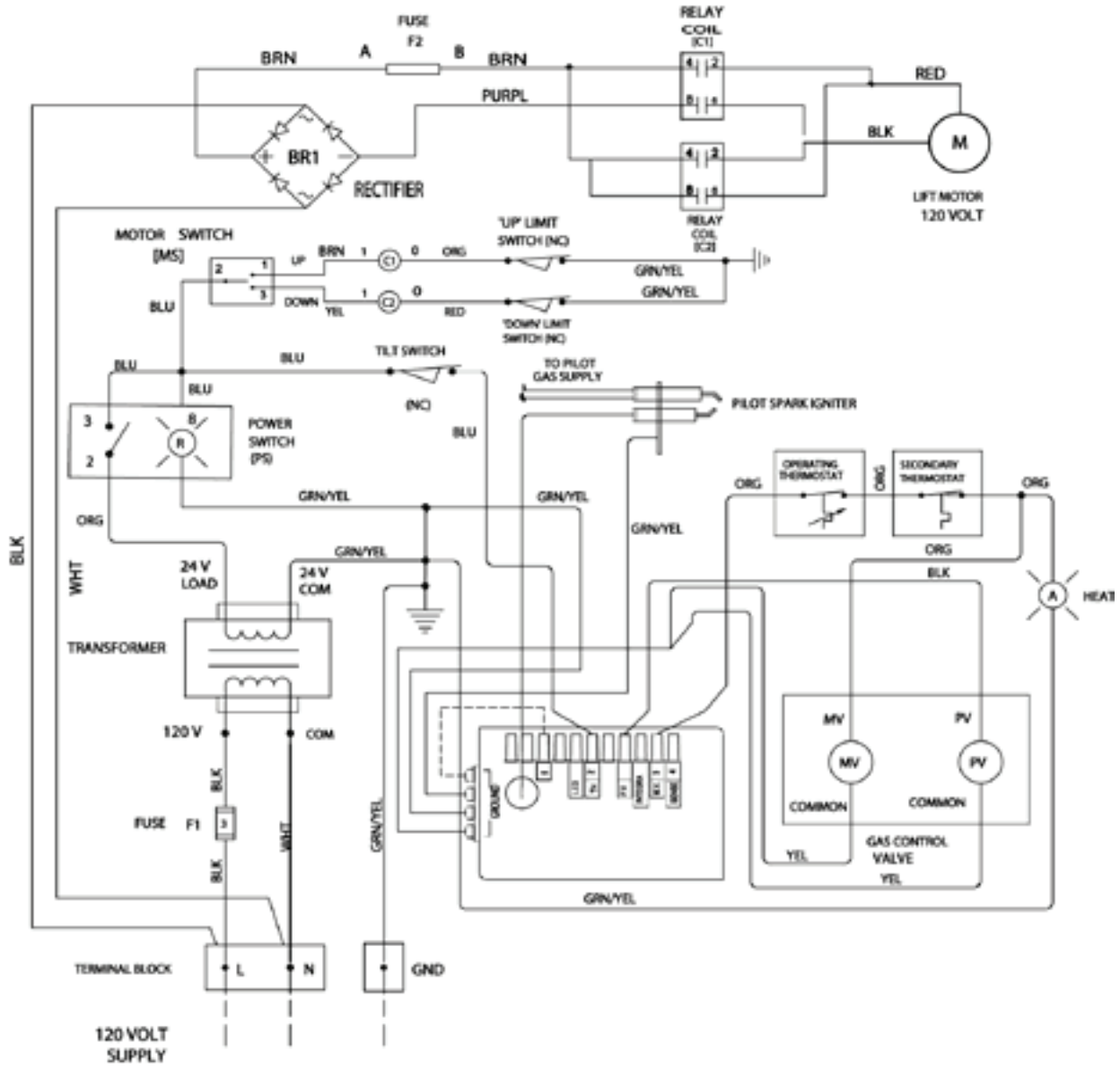
BURNER ORIFICE "QUANTITY" CHART

Model	30 Gallon	40 Gallon
BPM or BPP	11	15

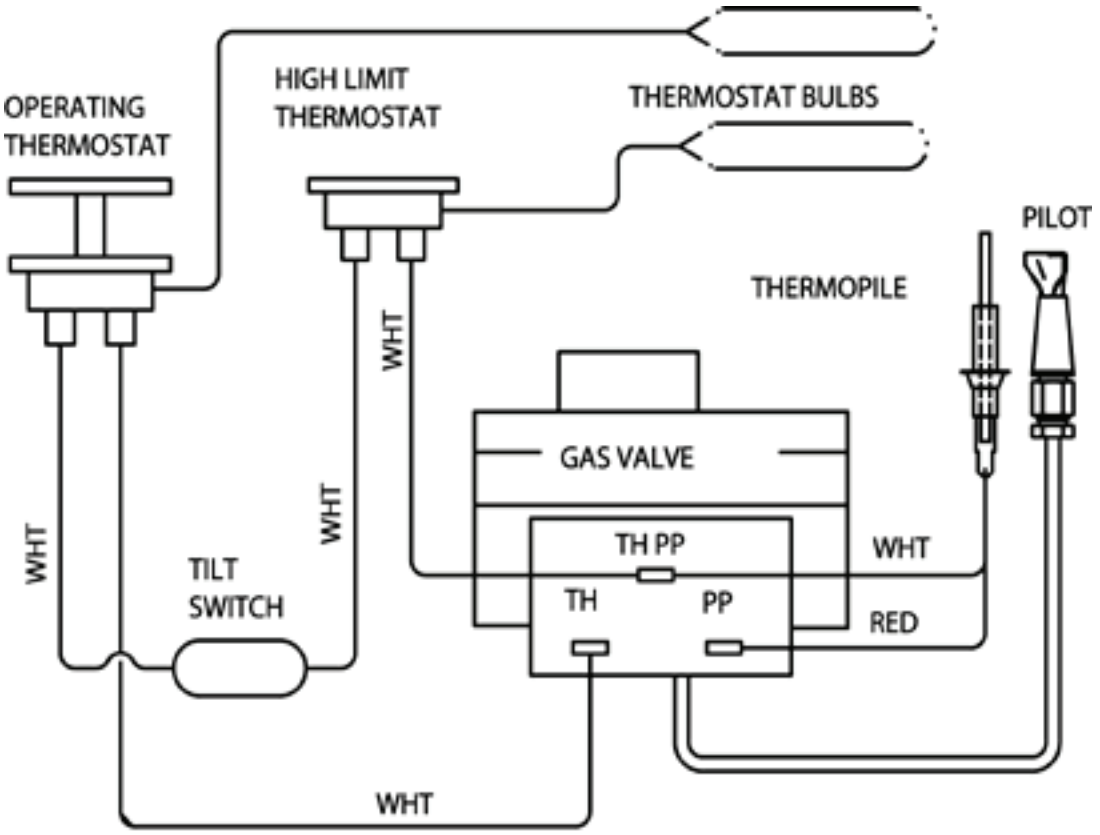
Schematics
Electronic Ignition System
Manual Tilt



Schematics
Electronic Ignition System
Power Tilt



Diagrams & Schematics
Standing Pilot Ignition System



Service Log

Model No:	Purchased From:
Serial No:	Location:
Date Purchased:	Date Installed:
Purchase Order No:	For Service Call:

Date	Maintenance Performed	Performed By

Service Log

Model No:	Purchased From:
Serial No:	Location:
Date Purchased:	Date Installed:
Purchase Order No:	For Service Call:

Date	Maintenance Performed	Performed By

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